ENQUIRY INTO THE RAILWAYS IN INDIA

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AN ENQUIRY

INTO THE

STATISTICS, PROGRESS, AND PROSPECTS

OF

RAILWAYS IN INDIA.

26790

BY

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PART I.

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PREFACE.

THE information regarding Indian Railways being somewhat scattered, suggested to the writer of the following pages the utility of throwing together what information he could collect regarding Joint-Stock property of that description.

The large amount of capital now invested in these undertakings, the fact that it is almost entirely held in Britain, the novel connection between the Railways and Government, and the distance of the scene of operations, (making personal inspection next to impossible to a shareholder,) combine in rendering the subject worthy of more particular enquiry than it has hitherto received.

When his attention was first directed to the subject of Indian Railways, the writer had, in common with many others, an exaggerated opinion of the security offered, and of the general prospects of the several lines, taken from the remarks of the press and the Railway reports occasionally seen.

To satisfy himself as to the accuracy of these impressions, he obtained copies of the series of reports published by the Government Director of Indian Railways, and has now compared them with much care and labour with the private reports of the several undertakings.

The result has been to shake his confidence to some extent in the security, and to cause him to doubt whether the general expectations of the financial success of the Railways as a whole will be realized.

That they may earn 5 per cent. net is not improbable, *but the risks run demand that minimum return.* We can get good Colonial Government Securities to yield more; but that the Indian Railway Shareholders will ever, as a general rule, receive much more, is problematical, seeing that the original estimates have been very much exceeded, and the working expenses have proved very heavy.

It is, doubtless, a great national advantage to have these Railways, and to the Government of India of incalculable benefit; but it remains to be seen whether that advantage and benefit have not been purchased cheaply at the expense of the Railway Shareholders.

There was a tone taken in the Government reports in 1860 and

1861, which was checked and moderated in 1862 and 1864. In the report of 1860, Mr. Danvers (the Government Director) says, "The amount affixed to the Indian lines (in a prefixed table) exhibits, therefore, with trifling exceptions, what is actually required for the construction of the works, and supply of plant."—(Report 1862, paragraph 162.) He adds in a note, "This observation does not, however, apply with great force to the East Indian, partly in consequence of the addition caused to their expenses, from losses incurred by the mutiny," &c. That is to say, that the estimate for the East Indian is more than it should naturally be by £3,000,000, at least, which we find (Report 1860, paragraph 28) is what he estimates the loss, from the effects of the mutiny, to have been to that Company. Setting aside the East Indian altogether, however;—the estimate for which then was £19,000,000, (including that loss by mutiny,) for 1,338 miles, and whose present estimate for 1,370 miles is £26,500,000;—we may turn to some of those other lines mentioned in the table which were not so affected, and to which his remark, therefore, applies in full force, and find first the Madras was estimated, in 1860, at £8,500,000 for 850 miles, and in 1864, for the same distance, is estimated at £10,000,000; the Great Indian Peninsula estimated, in 1860, at £12,000,000 for 1,266 miles, and in 1863, at £16,000,000 for the same distance; the Bombay, Baroda, and Central India estimated at £2,500,000 for 310 miles in 1859, and at £5,500,000 for 312 miles in 1863. The total increase, in 1864, over the whole estimates which the Government Director held out in his report of 1860 as what, with a few trifling exceptions, was all actually required for the construction of the Railways and the supply of plant, being about £20,000,000, with a *decrease* of about 130 miles in the aggregate mileage. He proceeded, in his report of 1860, to heighten the agreeable prospect by contrasting the cost of the London and North-Western with the East Indian Railway,—a comparison which could not fail to introduce fallacious hopes;—and then gave it as his opinion, that the cost of the East Indian Railway was likely to be £17,000 per mile as a single line, and £20,000 as a double line. Experience has shewn that the East Indian Railway will be more likely to exceed the latter sum as a single line, and that, consequently, the difference allowed by the Government Director for conversion into a double line may be safely increased.

It seems that the operations of the Railway Companies were, in 1859, impeded by want of funds, and that the flow of British capital, in their direction, had sustained a check, (Report 1860, paragraph 28;) and it was then that this *couleur de rose* report appeared.

In 1862, however, a cloud comes over the picture—the Government Director, who, in 1860, thought the estimate of £52,150,000 sufficient for 4917 miles, begins to think that £57,120,000 will not suffice for 4,653½ miles, (263½ less;) he, however, thinks £60,000,000 may do, (Report 1862, paragraph 24;) but in 1864 we find £71,900,000 placed as the probable cost of 4,785¾ miles; and he seems to be less confident in that than in the estimate of 1860.

Mr. Danvers attempts to make some excuse for the enormous difference between the estimates in his Reports of 1860 and 1864, by saying, that to the causes which in 1862 led him to place £60,000,000 as the amended estimate for 4,653½ miles, was to be added the increased length of mileage of the Railways. To this the writer can only reply by pointing to the figures of Mr. Danvers' own Reports, which completely refute this reason. The estimate in Report 1860, was for 4,917 miles; in Report 1862, for 4,653½ miles; and in Report 1864, for 4,785¾ miles, shewing a *decrease* in the aggregate mileage to be estimated for of 131¼ miles, against an *increase* in the total estimated cost of £19,850,000.

He is unfortunate in his application of that reason to the East Indian in particular, because he says, in regard to the addition of mileage having increased its estimated cost, that that Railway will probably have added 200 miles to its lines as originally projected. Now, although this may be the case, it has little or nothing to do with the estimates contained in his Reports, for the estimate for the East Indian, in his Report of 1860, is based on 1,338 miles; in his Report of 1862, on 1,364 miles; and in his Report of 1864, on 1,369¼ miles, shewing a total increase of mileage to be allowed for in the last estimate of only 31¼ miles, against an estimate increased by £7,500,000. He perhaps alludes to the Raneegunge chord line as part of the 200 additional miles; but that cannot be allowed for in the estimate of 1864, which amounts to £26,500,000; for the Chairman of the East Indian Railway, at the meeting, 31st October, 1864, stated £30,000,000 as the estimate for the whole undertaking as at present projected, which, allowing 115¾ miles for the extension at Raneegunge, would be about 1,485 miles

long. This exhibits an increase of only 147 miles over the mileage estimated for in Mr. Danvers' Report 1860; but, on the other hand, an increase of £11,000,000 over the estimate in the Report of that year, or about £75,000 for every additional mile of single rails.

A curious allusion was made at the General Meeting of the East Indian Railway, in October, 1864, in relation to the Bridge at Delhi, (and the same is applicable to the suspension of operations at the Jubbulpore end of the line,) which serves to point out a contingency of Railway enterprise in India not often thought of. This was an allusion to a difference of opinion between Government and the Company as to whom the duty of fortifying the Railway access to the city at the Jumna Bridge into Delhi should fall upon. What would we say of London and North-Western stock, if the Company were called upon to fortify its entrances into Birmingham and London? Such contingencies require high returns, and 5 per cent. appears wholly inadequate as a recompense.

An inspection of the accounts of the various Railways, and a consideration of their progress and prospects of paying more than 5 per cent., is therefore necessary; and in order to shew these as intelligibly as possible, the general state of the Railways is first discussed, (Part I.,) and then they are taken in detail, (Part II.) Their accounts are arranged in the same way in the latter; but in doing this there was some difficulty, owing to the variety of forms, and in some cases the rather meagre way in which the Railway statistics are given. The Government Reports, also, are nearly useless as a check upon the Railway accounts, as reported by themselves, for they are made, in most cases, upon a different principle,—as, for example, the Government Report, in 1864, gives only the sums of guaranteed interest actually paid at 31st December, 1863, while the East Indian Railway Company includes, in its balance of that date, the guaranteed interest due on that day, and payable on 1st January, 1864. The adjustment of traffic balances, after first reporting, which, from the system of Government audit, is in some cases unavoidable, tends to disturb revenue calculations; but the writer believes that any discrepancy in the following statements will be found immaterial, and the estimates made not far from the mark.

GLASGOW, *3rd February, 1865.*

INDIAN RAILWAYS.

It is now nearly twenty years since the first Railway Companies of India were proposed; but it is only fourteen years since a commencement was made in their actual formation. The East India Railway and Great Indian Peninsula Railway were projected in 1845; but it was not until 1850 that operations were commenced on the latter line between Bombay and Callian, nor until 1851 that the Engineers of the Raneegunge Branch of the former first broke ground.

After this preliminary delay, the works proceeded slowly until 1858, when an inquiry was made into the causes of the slow progress of the various lines towards completion; and it was found that the delay was partly caused by the impediments occasioned by the necessary Government supervision, at home and in India, over lines upon which they had given a guarantee; partly by the incidental delays occasioned by the execution of public works at a distance; partly by the Sepoy Mutiny; and partly by the natural difficulties in construction. It appeared also that in some cases the Government interference had been productive of vexation and annoyance to the Railway officials. After 1858 the Railway works proceeded more rapidly, and in 1864 there were 2687¾ miles open to traffic, against 436 in 1859.

The Government of India promoted the formation of two descriptions of lines, Trunk Lines and Feeders; and by two kinds of assistance,—a qualified guarantee of interest upon capital, and a direct annual subsidy; both for a certain term of years.

The Companies enjoying the guarantee are,—

The East Indian Railway.

The Great Indian Peninsula Railway.

The Madras Railway.
The Bombay, Baroda, and Central India Railway.
The Scinde Railway.
The Punjaub Railway.
The Delhi Railway.
The Eastern Bengal Railway.
The Great Southern of India Railway.
The Calcutta and South-Eastern Railway.
The Indus *Flotilla.*

These are all Trunk lines.

The Companies subsidized are,—

The Indian Branch Railway Company.
The East Indian Tramway Company.

Both of which supply feeders to the main lines.

NATURE OF THE GUARANTEE BY GOVERNMENT.

As already stated, the guarantee is a qualified one. The Indian Government guarantees for the term of ninety-nine years from the dates of the several contracts entered into between it and the Railway companies; the payment to the companies of interest as agreed upon for distribution amongst the proprietors of the authorized capital. By authorized capital is not meant all or any capital authorized by the Shareholders, but only that capital specially authorized by the Government to be raised; and which has been expended according to its direction, and under its inspection. Nor does it necessarily follow, because Government pays the amount of guaranteed interest to the account of the Company, that the proprietor of authorized capital is absolutely certain of receiving the whole or any part of the guaranteed rate, because the traffic results of the various undertakings *may* affect them unfavourably; and if the Railway were so unfortunate as to be worked at a loss in place of a profit, the amount of interest received for distribution from the Government would be lessened to the same extent. At the same time it is also true that the receipts of the Shareholders during these ninety-nine years are not limited to the fixed rate guaranteed; but would, in the case of Railways paying net profits above the guaranteed rate, embrace a share of such surplus profits.

Considering, therefore, the reciprocal relations of the Guarantee and the Traffic results, it becomes necessary, before buying even that portion of a Railway Capital which is guaranteed by Government, to understand the nature of the Guarantee, and to compare its working with the past results and future prospects of the Railway.

The following is a digest of the position of Indian Railways' Guaranteed Stock:—

I.—As long as the Railway is worked at a profit not exceeding the amount required to pay the rate guaranteed by Government, the Government will pay the whole amount guaranteed, placing that amount to the debit of the Railway Company, less the amount of net profits handed over to it. Thus, supposing the amount required to pay a 5 per cent. guarantee was £200,000, and that the net profits of the Company were £50,000, the Government would pay £200,000 to the Railway Company, and debit them therewith less the £50,000 of net profits; which would leave a balance of £150,000 against the Railway Company, until liquidated by future surplus net profits beyond the amount required to pay the guaranteed rate.

II.—As often as the Railway Company earned net profits, amounting to more than the sum required to pay the guaranteed rate, then the Company would receive the guaranteed rate, and in addition the half of any such excess of profits. Thus, supposing the amount required to pay a 5 per cent. guarantee was £200,000, and that the profits were £300,000, the Shareholders would receive £250,000, (equal to 6¼ per cent.,) and the remaining £50,000 would be paid to Government, towards the liquidation of any guaranteed dividends (and interest thereon) already paid to the Shareholders, in excess of the net profits of former years.

III.—Whenever, by means of these payments last referred to, the whole outstanding balance of guaranteed dividends paid by the Government, along with simple interest thereon, shall have been wiped off, then the whole amount of profits will belong in future to the Railway Company. (The Government have power, by reducing the rates, to keep the net profits from exceeding 10 per cent.)

IV.—Should the Railway be worked at a loss instead of a profit, the Government will deduct the net loss from the amount required to pay the guaranteed rate, and the Shareholders receive proportionately less. Thus, supposing the amount required to pay 5 per cent. guaranteed were £200,000, and that the Railway was worked at a loss of £50,000, the Government would only pay £150,000 (or $3\frac{3}{4}$ per cent.) to the Company, and would place the whole amount, £200,000, to their debit, to be liquidated by any future surplus profits, as explained in paragraphs II. and III.

V.—As a privilege to the Railway Companies, it has been arranged that any Company may, after the Railway has been finished and in operation for three months at least, and at any time thereafter within ninety-nine years from the date of contract with the Government, give six months' notice of their intention to relinquish the Railway; and at the expiry of that time hand over the same, in good working order, to the Government, who will repay all authorized sums expended, subject to deduction of unsatisfied claims against revenue, (which will, of course, include any outstanding balance of dividends paid in advance, and simple interest thereon.)

VI.—The Government has several privileges and powers which materially affect the position of the Guaranteed Stock.

1st, It may purchase the Railways at any time within six months after twenty-five years from the dates of the several contracts with them, or within six months after fifty years from the same time. The price, in either case, will be the mean value of the stock or shares for three years, previous to twenty-five years, or fifty years, from the date of contract.

2nd, In case of the failure of the Guaranteed Railway Company to raise the amount of capital authorized and guaranteed for purposes of construction, or of proper application of such funds, or of proper execution of the works, or of proper working of the Railway, the Government has power, upon three months' notice, to terminate the interest of the Company in the Railway; and within six months after the expiry of the notice of three months, to repay to the Company the capital expended by them upon the railway, subject to deductions for outstanding debts and liabilities.

3rd, The Government has power also to expend sums of money for the proper working and repair of Railways; and to deduct such expenditure from the guaranteed interest payable in respect of the Railway in question.

4th, At the expiry of ninety-nine years from the date of each contract, (supposing the Railway neither previously bought by Government, nor relinquished by the Company,) the land and works relapse to, and become the property of the Government; and the rolling stock will be purchased by it at a valuation.*

5th, The Government has power, when purchasing or accepting the surrender of the Railways, instead of paying the gross price, to commute it, by the payment of an annuity from the time when the price should have been payable, to the end of the ninety-nine years' contract. The rate of interest upon which the annuity shall be calculated, to be the average rate during the two years previous received in London upon the obligations of the Indian Government, which shall be ascertained by reference to the Bank of England. Thus, supposing the Government gave notice to purchase, or the Company to surrender the Railway at the expiry of twenty-five years from date of contract, then the price of the Railway, as determined by the mean value of its Stock for three years, less claims outstanding against revenue, would be commuted by Government into such an annual payment for seventy-four years, as could be purchased as an annuity for that time, with the net value of the Railway. Thus, if the authorized Capital of a Railway was £12,000,000, the mean three years' price of the Stock £101, the average rate of interest received for two years previous on the Indian Government's obligations 4¼ per cent., and the balance due to Government £1,500,000, the Government would pay such an annuity for the time of contract yet to run, as could be raised for that time by the

* As the Companies have at all times, within ninety-nine years, the power of surrender at a mean three years' value of their stock or shares, they are protected against being compulsorily denuded of their property by this last privilege of Government, which may be considered as virtually inoperative.

immediate payment of £10,620,000, calculating the annuity on the basis of 4¼ per cent.*

In general it appears that the Indian Companies have a great advantage over the Home Railways in the absence of Parliamentary expenses, in the price of land, and in banking and finance facilities; but that these are almost, if not more than counterbalanced, by the hampering effects of Government supervision, the expense of bringing Railway material from Europe, and the very heavy working expenses inseparable from a European staff in a hot climate.†

When the affairs of the Railways come to be examined, it will be found that the estimates are generally proving much within the actual expenditure of Capital; that the required traffic to pay the guaranteed rates is consequently advancing to such a sum as will be unobtainable from the present single lines of Railway; and that it is estimated that £2000 or £3000 per mile will have to be spent to double the lines, besides large sums for additional Rolling Stock to accommodate an increasing traffic. We are not prepared to believe, until more favourable results appear upon the single lines than can at present be shewn, that these Guaranteed Stocks will prove anything better than second class Government Securities. The powers of interference, supervision, restriction, expenditure, and periodical absorption by the Government,—all of which might as easily be turned to the disadvantage, as to the advantage of the Railways,—must depress their energies as commercial enterprises. This is said of the Railways *generally*, and without prejudice to the prospects of Shareholders in such lines as have been cheaply and quickly constructed, and thus enabled to be remunerative at lower traffics, and to be free from the accumulation of money

* It is obvious that the time occupied in the construction of the Railway, if it is tedious, will have the effect of accumulating a heavy balance of claims upon revenue to be liquidated, which, with the value of the Shares in the market, as well as the state of the line, and the variations of interest, will all, more or less, affect the amount of the annuity.

† The very lowest *estimate* for a single Trunk Line in India, with all these advantages, is £8000 per mile. Now, in Scotland and Ireland single Trunk Lines, paying for land and Parliamentary expenses, have been *laid down* for less.

due to Government for dividends paid in advance. This will be better seen by referring to the statistics of the various Companies farther on.

THE NATURE OF THE SUBSIDY.

The other form of Government assistance to Railways—viz., an annual subsidy for twenty years—has only recently come into use, and to a very modified extent; and it is of so limited a nature, as only to guarantee about 2½ per cent. per annum for twenty years, upon lines whose average cost is £4000 or £5000 per mile. This can only be of service to Railways of a very light description, which can hardly be expected to do more than act as carriers to the larger lines, and would require extension before it could be applied to lines capable of being used eventually as parts of a Trunk system. The assistance by subsidy is regulated according to the circumstances of each particular case.

THE GENERAL SYSTEM OF INDIAN RAILWAYS.

From the outset of Railway operations in India, the Government assumed the power of fixing the routes of all the Railways; and at the beginning of the system of promotion by Guarantee, certain Trunk lines were laid down to be made, which, while they would be of commercial value, would also improve the political and military communications of the country by connecting the three Presidencies by Railway.

It is needless here to state the process of arriving at the present condition of Railway enterprise in India, especially as there is little or no change in the disposition of the main lines since they were first projected.

When these main lines at present in process of construction are finished, they will combine with the Indus Flotilla in making five great arteries for traffic from East to West.

The first and most northerly will be from Calcutta on the east, to Kurrachee on the west, being composed of the East Indian Railway from Calcutta to Delhi; of the Delhi line from Delhi to Umritsur; of the Punjaub Railway from Umritsur to Mooltan; and of the Indus Steam Flotilla (likely

now to be superseded by a Railway) from Mooltan to Kotree; and of the Scinde Railway from Kotree to Kurrachee.

The second great route is from Calcutta to Bombay, the line being formed by the junction of the southern branch of the East Indian Railway from Calcutta, and of the northern branch of the Great Indian Peninsula Railway from Bombay, —the two lines meeting at Jubbulpore.

The third great route is from Madras to Bombay, and consists of a junction at Raichore, between the southern branch of the Great Indian Peninsula from Bombay, and the northern branch of the Madras Railway.

The fourth route is from Madras on the east, to Beypore on the west coast,—the whole distance being traversed by the Madras Railway.

The fifth route is from Negapatam to Beypore, and is to be formed by the junction of the Great Southern of India Railway from Negapatam, with the Madras and Beypore line at Errode.

The east and west of India are therefore intended to be united by five direct lines; but as each and all of these are to be connected by one general system, a communication for interchange of traffic will also be effected between the north and south.

The through traffic of the north-west and north-east will be shared by the East Indian, Eastern Bengal, Scinde, and Great Indian Peninsula; that of the central districts, by the Madras and Great Indian Peninsula; and that of the southern districts, by the Madras and Great Southern of India Railways. The through traffic from the extreme north-east and north-west to the south-east and south-west, will be passed on by the Eastern Bengal and Delhi Railways respectively to the East Indian, from the East Indian to the Great Indian Peninsula, from the Great Indian Peninsula to the Madras Railway, which will convey it to the south-west coast at Beypore, or hand it over to the Great Southern of India Railway for transport to Negapatam on the south-east coast. Many important works have yet to be completed before this chain of communication is perfect, and as yet none of the five transverse lines have effected a junction.

When the first Government Report was published in 1860, it contained, amongst other things, an estimate of the probable cost of each Railway. These estimates, in most cases, fall far short of the ultimate reality, as the following table of amended estimates, which appeared in the succeeding Government reports, serves to shew. To all appearances the cost of each Trunk Railway mile is likely to average £16,400, instead of £10,600, as estimated in 1860; and considering the colossal works and expensive nature of material and construction, this is not to be wondered at. The wonder is that the first estimate should ever have been credited. It must be recollected also that the Railways thus estimated are almost entirely composed of single lines, with plant in proportion; and that when the rails come to be doubled, a heavy addition to capital must be made.

ESTIMATES of the COST of the various INDIAN RAILWAYS contained in the Annual Reports of the Government Director.

RAILWAY.	Government Report 1860		Government Report 1861		Government Report 1862		Government Report 1863		Government Report 1864	
	MILES.	ESTIMATE.	MILES.	ESTIMATE.	MILES.	ESTIMATE.	MILES.	ESTIMATE.	MILES. Sanctioned.	ESTIMATE.
East Indian,	1338	£19,000,000	1364	£23,000,000	1364	£23,000,000	1369¼	£24,750,000	1369¼	£26,500,000
Great Indian Peninsula,	1266	12,000,000	1266	12,000,000	1266	12,000,000	1266	12,000,000	1266	16,000,000
Madras,	850	8,500,000	850	8,500,000	850	8,500,000	850	8,500,000	850	10,000,000
Bombay, Baroda, &c.,	310	2,500,000	310	3,500,000	310	4,000,000	310	4,500,000	312	5,500,000
Scinde,	114	1,400,000	114	1,400,000	114	1,600,000	114	1,800,000	114	2,000,000
Punjaub,	490	4,000,000	490	4,750,000	252	2,500,000	252	2,500,000	252	3,000,000
Delhi,					280	3,000,000	300	3,000,000	320	5,000,000
Eastern Bengal,	220	2,500,000	110	1,400,000	110	1,500,000	110	1,500,000	112	1,800,000
Great Southern of India,	300	2,000,000	78½	550,000	78½	640,000	79	660,000	161½	1,500,000
Calcutta and South-Eastern,	29	250,000	29	280,000	29	380,000	29	500,000	29	600,000
	4917	£52,150,000	4611½	£55,380,000	4653½	£57,120,000	4679¼	£59,710,000	4785¾	£71,900,000
Average per Mile,		£10,606		£12,009		£12,275		£12,761		£15,024

With all deference to these last Estimates, and looking to the mileage yet to be opened, as well as to the unfailing additions hitherto made from year to year to the estimated cost of most of the lines, we can hardly accept them as final; and a table is therefore given of the last estimated, authorized, and expended capital of each Company, with the particulars of mileage open and yet to be opened, shewing the proportions of work to do, and the resources to meet that work, concluding with a private estimate, based upon these data, of the total cost of each Railway constructed as a single line and as a double line. £4000 per mile has been taken as the additional cost of doubling the line and increasing the rolling stock.

CAPITAL—ESTIMATED—AUTHORIZED AND EXPENDED.
MILEAGE—ESTIMATED—OPENED AND UNOPENED.

NOTE.—These figures, for the sake of uniformity, have all been taken from the Government Reports. They may not, therefore, correspond with the separate tables attached to each Railway in Part II., as these are made up from the Government Reports in combination with those by the Railway Companies.

NAME OF COMPANY.	Estimated Cost. Report 1864.	Authorized Capital. Report 1864.	Expended Capital. Report 1864.	Mileage. Report 1864.			Available Balances of Capital.		Per centage of		Private Estimate of Ultimate Cost in round numbers.	
				Total.	Open.	Not Opened.	Estimated.	Authorized.	Estimate Spent.	Mileage Open.	As a Single Line.	As a Double Line.
East Indian,	£26,500,000	£24,750,000	£21,850,417	1369¼	1121	248¼	£4,649,583	£2,899,583	82.45	81.87	*26,500,000	*31,977,000
Great Indian Peninsula,	16,000,000	14,000,000	10,977,197	1266	553	713	5,022,803	3,022,803	68.6	43.68	19,000,000	24,064,000
Madras,	10,000,000	8,000,000	6,730,481	850	448¾	401¼	3,269,519	1,269,519	67.3	52.8	12,500,000	15,900,000
Bombay, Baroda, & Cent. India,	5,500,000	5,100,000	4,865,037	312	185½	126½	634,963	234,963	88.46	59.46	6,000,000	7,248,000
Scinde,	2,000,000	2,000,000	1,879,898	114	114	Nil.	120,102	120,102	93.99	100.	2,000,000	2,456,000
Punjaub,	3,000,000	2,000,000	1,861,773	252	43½	208½	1,138,227	138,227	62.06	17.26	3,500,000	4,508,000
Delhi,	5,000,000	2,500,000	40,325	320	—	330	4,959,675	2,459,675	.81	Nil.	5,500,000	6,780,000
Eastern Bengal,	1,800,000	1,600,000	1,479,482	114	114	Nil.	320,518	120,518	82.19	100.	1,600,000	2,056,000
Great Southern of India,	1,500,000	1,165,600	685,689	161½	79	82½	814,311	479,911	45.71	48.92	1,500,000	2,146,000
Calcutta and South-Eastern,	600,000	500,000	453,475	29	9	Nil.	146,525	46,525	75.58	100.	500,000	616,000
Totals,	£71,900,000	£61,615,600	£50,823,774	4787¾	2687¾	2100	£21,676,226	£10,791,826	70.69	56.14	78,600,000	97,751,000
General Average per Mile,	£15,017	£12,869	£18,909				£10,036	£5,139			£16,417	£20,417
			On Mileage Open.				For every Mile Unopened.					

* These do not include the Raneegunge Chord Line.

From the foregoing table it will be seen that the total expenditure to open 4787¾ miles was estimated to be £71,900,000; of which, however, Government had only authorized £61,615,000, leaving £10,285,000 yet to be sanctioned before the Railways could be finished on a guarantee even at that estimate. But when it appears that upwards of 70 per cent. of that estimate had already been spent in opening about 56 per cent. of the estimated mileage, it becomes exceedingly dubious if the estimates of 1864 take a frank enough view of probabilities. For while it will be seen that the average mileage opened, and some of it was very cheap, shews an expenditure of very nearly £19,000 per mile; the whole available balance of the estimate leaves only £10,000 per mile yet to be spent on the unopen mileage, while the authorized sum would only permit of an expenditure of £5140 per mile on the unopened mileage. When it is recollected that they are not the cheap and easy portions of the Railways that are still being executed, but those whose distance from the seaboard, and great engineering difficulties, make them the most tedious and expensive, it will be perceived that the allowance made for them in the estimates is suspiciously low. After looking at the state of the several Railways individually, we cannot place a safe estimate of the average mileage cost of the distances unopened at less than £13,227 per mile, which, with what has already been expended, would bring up the total cost to £78,600,000 for 4787¾ miles, or about £16,417 per mile, being £16,784,400 above the authorized, and £6,700,000 above the estimated capital in the Report 1864. We are told by the Government Reports that it would take £2000 or £3000 additional to lay another line of rails; and as we may safely add a-half to this, and another half for the necessary rolling plant, we may say that £4000 to £5000 per mile would require to be spent before the Railways could be made serviceable for a very large traffic. Taking the additional cost for these objects at £4000 only, we obtain the estimates in the last column of the preceding table.

Another element deserving serious consideration in regard to the Railways is the amount of guaranteed interest advanced

by Government on their account, which will require to be wiped off before they can enjoy their full profits, and be freed from the hampering of Government supervision. This will be found in the following table, which has been prepared from the Government Director's and from the Railway Companies' Reports conjointly. It is necessary to remember, when reading the Government Director's Reports, and in comparing the net traffic results exhibited in them, with the amounts given as having been advanced for dividend to the Railway Companies, that these reports give the net traffic up to the time of each report, the 30th June; but that, as they only give the sums *actually paid up to the end of the preceding year*, there are really two half years of dividend to place against the total net traffic more than appears in the Government Report, viz., the dividend due on 31st December, but payable in January, and therefore not included in the actual payments up to 31st December; and the dividend due at 30th June, but payable in July, and therefore chargeable against the net traffic earned up to 30th June.

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CAPITAL—NET TRAFFIC—INTEREST AND MILEAGE.

RAILWAY.	Total Amount of Capital raised at Dec. 31, 1863.	Net Traffic required to pay a Year's Divd. @ 5°/₀	Actual Net Traffic, Year ending Dec. 31, 1863.	Approximate Deficiency on Year ending Dec. 31, 1863.	Total Amount of Dividends actually paid by Govmnt., as at Dec. 31, 1863.	Approximation to Dividend due 1st Jany., 1864, chargeable against half-year, Dec. 31, 1863.	Approximate Total Divnds. Paid and Due in Advance up to Dec. 31, 1863.	Total Net Traffic Received up to Dec. 31, 1863.	Mileage according to Government Return at 31st Dec., 1863.	
									Open.	Yet to be Opened.
East Indian,	£21,444,593	£1,072,230	£439,964	£632,266	£5,200,109	£500,000	£5,700,109	£1,562,380	997¼	372
Great Indian Peninsula,	10,783,690	539,185	143,481	395,704	2,295,770	265,000	2,560,770	614,946	553	713
Madras,	6,929,317	346,465	73,482	272,983	1,480,197	170,000	1,650,197	225,064	448¾	401¼
Bombay, Baroda, &c.,	4,435,785	221,789	74,047	147,742	588,239	100,000	688,239	124,954	185½	126½
Scinde,	1,891,669	94,583	15,051	79,532	338,336	40,000	378,336	27,634	114	Nil.
Punjaub,	1,972,463	98,623	3,549	94,074	229,448	35,000	264,448	5,000*	43½	208½
Delhi,	1,044,968	52,248	Nil.	52,248	37,986	26,000	63,986	Nil.	Nil.	320
Eastern Bengal,	1,449,918	72,495	36,339	36,156	207,774	35,000	242,774	40,274	112	Nil.
Great Southern of India,	786,695	39,335	15,535	23,804	91,047	16,500	107,547	29,603	79	82½
Calcutta and South-Eastern,	438,931	21,946	minus 578	22,524	55,807	10,750	66,557	Nil.	29	Nil.
								*Approximate		

NOTE.—From the above table it will be seen, that owing to a large portion of most of the lines being yet unopened, a considerable addition will require to be made to the expenditure of temporarily unproductive capital deriving dividend from the Government. This, together with the deficiency of the existing traffic to pay 5 per cent. on capital, will have the effect of still further increasing the accumulated Balances against the Companies.

It will also be observed, that simple interest on the sums advanced by Government from time to time is not taken into consideration, but remains a latent claim by Government against the Companies.

It must be understood that the foregoing observations are to be qualified by the circumstances of each Railway; and it will be seen, by considering them separately, (Part II.,) which are the cheapest, which are nearest that point in revenue respectively required to prevent the further accumulation of Government claims for dividends advanced, and which have the smallest debt of that description proportionally to wipe off.

There is a point which is also worthy of particular remembrance, viz.,—

That the surplus revenue above any half-year's guaranteed dividend is to be applied, one-half to the reduction of the debt for the sums of guaranteed interest previously advanced, and simple interest thereon, at per cent. from the several times of payment of such sums, (Appendix to Government Report, 1860.) It is to be presumed that the rate of simple interest so chargeable, is the same as that guaranteed; in which case the general rate chargeable will be 5 per cent. This, *if exacted*, will prove a heavy burden upon the future surplus revenues above the guaranteed rate of those companies whose very magnitude and importance (and consequent surpassing utility to the Government) made them works of time, thus causing a large outlay of temporarily unproductive capital, and accumulating a heavy debt against them. Simple interest at 5 per cent. on the amount at debit of the East Indian Railway, at December, 1863, for example, would amount to about £200,000 per annum; and as it is far from unlikely that the sum at its debit may go on increasing for years to come, the amount which may be exacted in the shape of simple interest will also increase; *and to this must be added arrears of such interest, which must now amount to a very large sum.*

The Government may not intend to exact this interest; but if it is to be charged, it is an element in the finance of the larger companies principally, and affecting all of the undertakings to a greater or less degree, which ought not to be lightly slurred over, and which should be taken notice of both in the Government and Railway Reports. As yet this does not appear to have been done.

As the Railways could not be constructed without the

inducement for capital of the qualified guarantee by the Indian Government, and as all the sums paid to the Shareholders in respect of that guarantee become a debt by the Railway Companies, which is entitled to a deferred participation for redemption and interest in the future profits above the guaranteed rate of the several lines, it is obvious that this debt to Government is *part of the cost of construction*, and just as really *expended capital* as are the sums paid to the contractors. The guaranteed interest account is merely a subsidiary capital account, and the Indian Government is virtually a proprietor of capital in each company to the extent of the amount at debit of each company in interest account,—the peculiarities of that capital being, that interest thereon, though deferred, is accumulative, and that the half of the surplus net profits of the company is to form a sinking fund for the redemption of the principal sum, as well as for the payment of interest due thereon. The Government, by means of its powers of purchase at a valuation, subject to deduction of *all outstanding liabilities*, has a virtual *lien* on the property of each company, not only for the principal sums advanced, but also for the interest due thereon. Following upon this it appears, for example,—that although the East Indian Railway had only raised upon capital account £21,500,000 at December 1863, still that it was besides indebted to Government upon interest account about £4,000,000, so that *actually* about £4,000 per opened mile had been expended during construction beyond what appears as expended in capital account. This holds good in regard to the other companies in proportion to the amount of their debt to the Government.

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